EXHIBIT A
CLAIMS AS THEY WILL BE PENDING UPON ENTRY OF THE AMENDMENT OF DECEMBER 5, 2002 IN U.S. PATENT APPLICATION NO. 09/724,416

1. An isolated infectious respiratory syncytial virus particle which comprises an respiratory syncytial virus antigenome or genome containing at least one functional deletion in a viral accessory gene.

2. An isolated infectious respiratory syncytial virus particle having an attenuated phenotype comprising a respiratory syncytial virus antigenome or genome containing an M2-2 gene mutation.

3. An isolated infectious respiratory syncytial virus particle having an attenuated phenotype comprising a respiratory syncytial virus antigenome or genome containing an SH gene mutation.

4. An isolated infectious respiratory syncytial virus particle having an attenuated phenotype comprising a respiratory syncytial virus antigenome or genome containing an NS1 gene mutation.

5. An isolated infectious respiratory syncytial virus particle having an attenuated phenotype comprising a respiratory syncytial virus antigenome or genome containing an NS2 gene mutation.

6. An isolated infectious respiratory syncytial virus particle having an attenuated phenotype comprising a respiratory syncytial virus antigenome or genome containing both an M2-2 gene mutation and an SH gene mutation.

7. An isolated infectious respiratory syncytial virus particle having an attenuated phenotype comprising a respiratory syncytial virus antigenome or genome containing both an M2-2 gene mutation and an NS1 gene mutation.

8. An isolated infectious respiratory syncytial virus particle having an attenuated phenotype comprising a respiratory syncytial virus antigenome or genome containing both an M2-2 gene mutation and an NS2 gene mutation.

9. An isolated infectious respiratory syncytial virus particle having an attenuated phenotype comprising a respiratory syncytial virus antigenome or genome containing both an NS1 gene mutation and an NS2 gene mutation.

10. An isolated infectious respiratory syncytial virus particle having an attenuated phenotype comprising a respiratory syncytial virus antigenome or genome containing both an NS1 gene mutation and an SH gene mutation.

11. An isolated infectious respiratory syncytial virus particle having an attenuated phenotype comprising a respiratory syncytial virus antigenome or genome containing both an NS2 gene mutation and an SH gene mutation.

12. An isolated infectious respiratory syncytial virus particle having an attenuated phenotype comprising a respiratory syncytial virus antigenome or genome containing an NS1 gene mutation, an NS2 gene mutation and an SH gene mutation.

13. An isolated infectious respiratory syncytial virus particle having an attenuated phenotype comprising a respiratory syncytial virus antigenome or genome containing an M2-1 gene mutation.

14. The isolated infectious respiratory syncytial virus particle of Claim 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 or 13 which further comprises a heterologous sequence.

15. The recombinant RNA molecule of Claim 14 in which the heterologous sequence is derived from the genome of another strain of respiratory syncytial virus.

16. The recombinant RNA molecule of Claim 14 in which the heterologous sequence is derived from the genome of a virus other than respiratory syncytial virus.

17. A vaccine comprising a respiratory syncytial virus, the genome of which contains the reverse complement of an mRNA coding sequence operatively linked to a polymerase binding site of a respiratory syncytial virus, and a pharmaceutically acceptable carrier.

18. The vaccine of Claim 17 in which the mRNA coding sequence contains a deletion of the complete M2-2 gene.

19. The vaccine of Claim 17 in which the mRNA coding sequence contains a mutagenized M2-1 gene.

20. The vaccine of Claim 19 in which the M2-1 gene is mutagenized by cysteine scanning mutagenesis.

21. The vaccine of Claim 19 in which the M2-1 gene is mutagenized by C-terminal truncation of the M2-1 protein.

22. The vaccine of Claim 17 in which the mRNA coding sequence contains a deletion of the complete SH gene.

23. The vaccine of Claim 17 in which the mRNA coding sequence contains a deletion of the complete M2-2 gene.

24. The vaccine of Claim 17 in which the mRNA coding sequence contains a deletion of the complete NS1 gene.

25. The vaccine of Claim 17 in which the mRNA coding sequence contains a deletion of the complete NS2 gene.

26. The vaccine of Claim 17 in which the mRNA coding sequence contains a deletion of both the complete M2-2 gene and the complete SH gene.

27. The vaccine of Claim 17 in which the mRNA coding sequence contains a deletion of both the complete M2-2 gene and the complete NS1 gene.

28. The vaccine of Claim 17 in which the mRNA coding sequence contains a deletion of both the complete M2-2 gene and the complete NS2 gene.

29. The vaccine of Claim 17 in which the mRNA coding sequence contains a deletion of both the complete NS1 gene and the complete NS2 gene.

30. The vaccine of Claim 17 in which the mRNA coding sequence contains a deletion of both the complete M2-2 gene and the complete SH gene.

31. The vaccine of Claim 17 in which the mRNA coding sequence contains a deletion of both the complete NS1 gene and the complete SH gene.

32. The vaccine of Claim 17 in which the mRNA coding sequence contains a deletion of the complete NS1 gene, the complete NS2 gene and the complete SH gene.

33. The vaccine of Claim 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31 or 32 which further comprises a heterologous sequence

34. The vaccine of Claim 33 in which the heterologous gene is derived from the genome of influenza.

35. A pharmaceutical composition comprising the attenuated vaccine of Claim 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28 or 29.

36. The vaccine of claim 17, wherein said Respiratory Syncytial Virus is a chimeric virus.

37. The vaccine of claim 17, wherein said mRNA coding sequence encodes G and F genes of both Respiratory Syncytial Virus A and Respiratory Syncytial Virus B.

38. A vaccine comprising a chimeric non-segmented negative strand RNA virus, the genome of which contains the reverse complement of an mRNA coding sequence operatively linked to a polymerase binding site of said virus and a pharmaceutically acceptable carrier.

39. The vaccine of claim 38 wherein the non-segmented virus is selected from the members of the Paramyxoviridae family.

40. The vaccine of claim 39 wherein the Paramyxoviridae family member is Respiratory Syncytial Virus or parainfluenza.

41. (New) The vaccine of claim 17, wherein any one of the eight gene segments of the viral genome is replaced by a heterologous sequence.

42. (New) The vaccine of claim 41, wherein the gene segment is completely replaced by the heterologous sequence.

43. (New) The vaccine of claim 41, wherein the gene segment is partially replaced by the heterologous sequence.

44. (New) The vaccine of claim 41, wherein the gene segment is selected from the group consisting of L, M2-1, M2-2, NS1, NS2, and G.

45. (New) The vaccine of claim 41, wherein the gene segment is partially replaced by the heterologous sequence.

46. (New) The vaccine of claim 17, wherein the a heterologous sequence is inserted in one of the viral genes.

47. (New) The vaccine of claim 46, wherein translation of the heterologous sequence is initiated from an internal ribosome entry site.

48. (New) A vaccine of any one of claims 41-47, wherein the virus is attenuated